

### **REMARKS/ARGUMENTS**

Applicants appreciate the thorough examination of the present application, as evidenced by the first Official Action. The first Official Action objects to the Abstract and Claims 1, 9 and 14 for including a number of informalities. In response thereto, Applicants have amended the Abstract and Claims 1, 9 and 14 to correct the informalities identified in the Official Action, as well as to further clarify the claimed invention. Applicants therefore respectfully submit that the objections to the Abstract and Claims 1, 9 and 14 are overcome.

The first Official Action also rejects all of the pending claims, namely Claims 1-17, under 35 USC § 103(a) as being unpatentable over US Patent No. 7,023,903 to Kärnä, in view of US Patent Application Publication No. 2005/0002445 to Duniak et al., and US Patent Application Publication No. 2003/0053526 to Reznik. As explained below, however, Applicants respectfully submit that the claimed invention is patentably distinct from Kärnä, Duniak and Reznik, taken individually or in combination; and accordingly, Applicants traverse the rejection of the claims as being unpatentable over the respective combination of references. In view of the amendments to the Abstract and claims, and the remarks presented herein, Applicants respectfully request reconsideration and allowance of all of the pending claims of the present application.

As currently recited by amended independent Claim 1 of the present application, a radio receiver is provided that includes first, second and third stages. The first stage comprises a space-time transmit diversity-RAKE (STTD-RAKE) receiver for receiving and processing a radio signal from a transmitter that employs transmit diversity, and for producing an estimation of the radio signal as an output. The second stage is for receiving the output of the first stage and processing it to further refine the estimation using STTD-parallel interference cancellation (STTD-PIC), and the third stage is for receiving the output of the second stage and processing it to further refine the estimation using STTD-PIC. As further recited, the second and/or third stages comprise an STTD-linear minimum mean square error (STTD-LMMSE) receiver.

In contrast to amended independent Claim 1, Applicants respectfully submit that Kärnä, in view of Duniak and Reznik, does not teach or suggest a radio receiver including the recited first, second and third stages. Applicants note that amended independent Claim 1 recites a receiver including a first stage for receiving and processing a radio signal from a transmitter that

employs transmit diversity; where the first stage includes a space-time transmit diversity-RAKE (STTD-RAKE), the second stage includes STTD-parallel interference cancellation (STTD-PIC), and the second and/or third stages include an STTD-linear minimum mean square error (STTD-LMMSE) receiver. The Official Action cites Kärnä, and in particular column 3, lines 11-23, column 4, lines 6-30, column 5, line 59 – column 6, line 1, column 6, lines 63-67, column 10, lines 41-51, and column 14, lines 13-21 of Kärnä, for disclosing the STTD-RAKE and STTD-PIC features of the claimed invention. The only cited portion of Kärnä that relates to diversity, however, is column 14, lines 13-21 (portions of Claim 14), which discloses a receiver including one or more antennas for receiving a spread spectrum signal. But while one could argue that this passage of Kärnä supports disclosure of receive diversity (although expressly not admitted), nowhere does the passage support transmit diversity or STTD, as in amended independent Claim 1. In this regard, Applicants note that it is well known to those skilled in the art that receive diversity (arguably disclosed by Kärnä) and transmit diversity or more particularly STTD, as in amended independent Claim 1, are separate and distinct diversity schemes in wireless telecommunications.

Applicants therefore respectfully submit that amended independent Claim 1, and by dependency Claims 2-8, is patentably distinct from Kärnä, in view of Dunyak and Reznik. Applicants also submit that amended independent Claims 9 and 14 recite subject matter similar to that of amended independent Claim 1, including the receiving and processing of radio signals from a transmitter using transmit diversity (or more particularly STTD), a first stage comprising a STTD-RAKE, and a second stage comprising STTD-PIC and STTD-LMMSE. As such, Applicants respectfully submit that amended independent Claims 9 and 14, and by dependency Claims 10-13 and 15-17, are also patentably distinct from Kärnä, in view of Dunyak and Reznik, for at least the same reasons given above with respect to amended independent Claim 1.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of Claims 1-17 as being unpatentable over Kärnä, in view of Dunyak and Reznik, is overcome.

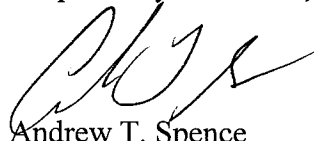
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Reply to Official Action of July 18, 2006

### **CONCLUSION**

In view of the amendments to the Abstract and claims, and the remarks presented above, Applicants respectfully submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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